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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/603,342	06/25/2003	Seishin Mikami	4041J-000732	2633
27572	7590	08/10/2006		
HARNESS, DICKEY & PIERCE, P.L.C. P.O. BOX 828 BLOOMFIELD HILLS, MI 48303			EXAMINER TRAN, CHUC	
			ART UNIT 2821	PAPER NUMBER

DATE MAILED: 08/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/603,342

Applicant(s)

MIKAMI ET AL.

Examiner

Chuc D. Tran

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 13 April 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-8 and 10-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-8 and 10 is/are allowed.
- 6) ☐ Claim(s) 11-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>11/21/05</u> | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 11-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Egashira et al (USP. 5539418).

Regarding claims 11 and 12, Egashira et al disclose in Fig. 23, an antenna apparatus mounted in a hole defined by a vehicle body made of metal, the antenna apparatus comprising:

- a planar antenna having a radiating element (20) and a ground plate (10); and
- a metal plate (30) positioned between the radiating element and the ground plate (Fig. 23); wherein

- the radiating element (20) is spaced in one direction from one side of the vehicle body (Fig. 23);

- the ground plate (10) is spaced in an opposite direction from an opposite side of the vehicle body (Fig. 23); and

- the vehicle body, the metal plate and the ground plate are electrically connected to each other to be at the same electric potential (80) (Fig. 23).

Regarding claim 12, Egashira et al disclose that the vehicle body defines a concavity (92), the through hole is formed in the bottom of the concavity (Fig. 23), and the radiating element (20) is positioned in the concavity (92) (Fig. 23).

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Egashira et al in view of McKenna et al (USP. 4,835,538).

Regarding claim 13, Egashira et al disclose an antenna apparatus as set forth in the claims, but does not go to details of the radiating element, the ground plate and the metal plate are molded in a resin. McKenna et al disclose an antenna apparatus, comprising a resin (foam) (114) (McKenna Fig. 4). Thus, it would have been obvious to one of ordinary skill in the art to modify Egashira et al by providing the resin dielectric (foam) cover around the radiating element, the ground plate and the metal plate as taught by McKenna et al. The ordinary artisan would have been motivated to modify Egashira et al in the manner described above for preventing damage to the antenna structure (McKenna Col. 6, Line 28).

***Allowable Subject Matter***

5. Claims 1-8 and 10 are allowed.

***Reasons for Allowance***

6. The following is an examiner's statement of reasons for allowance:

Regarding claims 1, 7 and 10, Egashira et al fails to disclose or fairly suggest in

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combination with the remaining claimed limitations, the ground plate is spaced in an opposite direction from an opposite surface of the vehicle body such that the imaginary body is interposed between the radiating element and the ground plate.

Claims 2-6 are allowed since they are dependent on claim 1.

Regarding claim 8, Egashira et al fails to disclose or fairly suggest the ground plate is spaced in an opposite direction from an opposite surface of the metal attachment plate such that the imaginary body is interposed between the radiating element and the ground plate.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

*Citation of relevant prior art*

Prior art Mckenna et al (USP. 4,835,538) disclose antenna array.

Prior art Egashira et al (USP. 5,539,418) disclose broad band mobile telephone antenna.

*Inquiry*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chuc D. Tran whose telephone number is (571) 272-1829. The examiner can normally be reached on M-F Flex hours.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy P. Callahan can be reached on (571) 272-1740. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

TC  
August 5, 2006



**HOANG V. NGUYEN**  
PATENT EXAMINER